



## State of Idaho

# DEPARTMENT OF WATER RESOURCES

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June 9, 2006

JAMES E. RISCH  
Governor

KARL J. DREHER  
Director

MICHAEL CREAMER  
GIVENS PURSLEY  
PO BOX 2720  
BOISE ID 83701

Re: 2006 Replacement Water Plan

Dear Mr Creamer:

Staff of the Idaho Department of Water Resources (Department) reviewed *North Snake Ground Water District's and Magic Valley Ground Water District's Joint Plan for Providing Replacement Water for 2006* ("the 2006 Replacement Water Plan" or "the plan"). After the review, staff concluded the following:

### **Conversions from Ground Water Irrigation to Surface Water Irrigation**

Staff evaluated the conversion projects identified in the 2006 Replacement Water Plan and determined that the projects, the acreage, and the estimate of surface water delivered to the conversion projects is reasonable when compared to the standards established during the 2005 conversion acres review. For purposes of this analysis, staff also followed the ground water districts' suggestion that the Department recognize credit for total water delivered in excess of 4.0 acre-feet per acre at the field headgate instead of spreading the water in excess of 4.0 acre-feet per acre through the North Side Canal Company's service area. The total volume of water proposed for delivery was 20,671 acre-feet. Staff duplicated the ground water districts' model simulation for delivery of conversion surface water and computed almost identical reach gains of 9.48 cfs for the Devil's Washbowl to Buhl Reach and 6.34 cfs for the Buhl to Thousand Springs Reach.

Staff eliminated conversion projects that resulted in 10% or less of the total reach gains to the target reaches (referred to hereafter as "clip" or "clipped"). The 10% clip reduced the total conversion water volume for the Devil's Washbowl to Buhl Reach from 20,671 acre-feet to 19,062 acre-feet. After applying the 10% clip, the model computed a gain for the Devil's Washbowl to Buhl Reach of 9.32 cfs.

The 10% clip reduced the total conversion water volume for the Buhl to Thousand Springs Reach from 20,671 to 20,028 acre-feet. After applying the 10% clip, the model computed a gain for the Buhl to Thousand Springs Reach of 6.30 cfs.

Staff attempted to duplicate the ground water districts' model simulation for asserted losses in the North Side Canal resulting from delivery of water to the conversion acres. Department staff assumed a loss of 6,201 acre-feet (30% of 20,671 acre-feet) uniformly lost in the North Side Canal. The model simulations computed reach gains of 3.14 cfs in the Devil's Washbowl to Buhl Reach and 1.73 cfs in the Buhl to Thousand Springs Reach. These results differ from the ground water districts' model simulation results.

Despite the elimination of some of the projects because of the earlier clip, staff assumed that the full 20,671 acre-feet was delivered into the North Side Canal, but that some of the 6,201 acre-feet alleged to have percolated into the ground water during deliveries in the North Side Canal would be lost in model cells where the 10% clip applies. As a result of the 10% clip of losses, a volume of 6,157 acre-feet was input into the model. The simulation predicted a reach gain of 3.14 cfs for the Devil's Washbowl to Buhl Reach, and a reach gain of 1.72 cfs for the Buhl to Thousand Springs Reach.

The attempt by the Department to duplicate the ground water districts' proposal seeking mitigation credit for alleged losses in the North Side Canal should not be interpreted as recognition of the losses or approval of the credit. The Department is currently analyzing data and technical methodologies for estimating the losses. Until there is a technical determination of the actual physical losses of surface water delivered for conversion projects, the ground water districts should not expect mitigation credit for these alleged losses.

### **Voluntary Curtailment**

Staff is presently analyzing the voluntary curtailment acreage. The Department believes some of the acreage currently identified includes lands that were disallowed in the Director's order for the 2005 replacement water plan, but cannot determine the eligibility of the lands because maps and descriptions of the locations were not submitted. Voluntary curtailment is only a small portion of the total proposed replacement water activities, contributing less than one cfs of gain to each of the target reaches. These reach gains will probably be reduced after the Department's analysis unless additional voluntary curtailment acres are proposed.

### **Ground Water Supply Augmentation**

The 2006 Replacement Water Plan proposes delivery of 40,000 acre-feet of water through the North Side Canal System that will recharge the Eastern Snake Plain Aquifer at "Wilson Lake and other NSCC facilities."

Department staff consulted "[m]apping and model data files . . . contained on the attached Compact Disk" submitted with the plan. By reviewing the information of the compact disk, staff concluded that water was added to model cells at two locations. One site is just above Box Canyon (hereafter referred to as "the near Box Canyon site"), located in the model cell described as layer 1, row 48, column 1, and also approximately located in Section 24, Township 8 South, Range 14 East. From the language in the plan, staff concluded the other site is located at Wilson Lake.

The data on the compact disk was incomplete, however. The compact disk did not contain any information about recharge from Wilson Lake.

The compact disk contained modeling information for the near Box Canyon site. The modeling information assumed delivery of 19,615 acre-feet to the near Box Canyon site. The ground water districts' simulation also assumed 5,970 acre-feet was lost in the North Side Canal while delivering the 19,615 acre-feet. The total surface water diverted from the Snake River for delivery to the near Box Canyon site equals 25,585 acre-feet. The plan asserts that a total of 40,000 acre-feet will be dedicated for ground water recharge. Subtracting 25,585 acre-feet from 40,000 acre-feet leaves a remainder of 14,415 acre-feet. Staff assumed that the 14,415 acre-feet was the surface water added in the vicinity of Wilson Lake.

The volume quantities set forth in the prior paragraph were input into the model to simulate reach gains in the target reaches. The resulting reach gains are as follows:

<b>Recharge Component</b>	<b>Devils Washbowl to Buhl Reach</b>	<b>Buhl to Thousand Springs Reach</b>
Unknown Recharge Site	7.0 cfs	11.5 cfs
Canal Losses	3.2 cfs	1.4 cfs
Wilson Lake	7.9 cfs	2.3 cfs
<b>Total</b>	<b>18.1 cfs</b>	<b>15.2 cfs</b>

The Department's simulations result in somewhat smaller total reach gains than the ground water districts' simulations.

The proposed delivery of all of the water to recharge sites, if recharge can be accomplished, will result in reach gains in each of the two target reaches in excess of 10% of the total reach gains resulting from the proposed recharge. As a result, staff did not clip any volume from the proposed augmentation water volume.

The ground water districts' proposal does not establish:

- The timing of delivery of the recharge water;
- The volume of water that will be delivered to Wilson Lake;
- The methods of credibly measuring the rates of percolation and resulting volume of water recharging the ESPA, particularly if the water is commingled with large quantities of surface water being delivered for irrigation;
- The physical capability of the two sites to recharge water into the ground at needed rates;
- The physical capability of the North Side Canal to deliver the volume of water in addition to water for the conversion acres and the volume of water for normal irrigation demand;
- The existence of a water carrying agreement with the North Side Canal Company;
- Water quality monitoring activities approved by the Idaho Department of Environmental Quality.

As a result of the above gaps in supporting information, the Department cannot analyze the actual feasibility of the recharge proposal. Furthermore, Department staff do not believe that sufficient water can be delivered in the North Side Canal to recharge the ESPA during the time water is being delivered for irrigation. A significant portion of the recharge water will probably need to be delivered into the North Side Canal following the end of irrigation deliveries.

### **Water Availability**

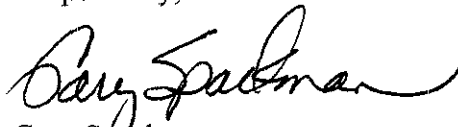
The 2006 Replacement Water Plan identifies 67,000 acre-feet of storage water that can be dedicated for conversion projects and for recharge. The model simulations input 26,872 acre feet delivered into the North Side Canal for conversion projects and 40,000 acre-feet delivered into the North Side Canal for ground water recharge, totaling almost the entire 67,000 acre-feet. Some of the storage water identified may not be available for recharge because it may also be dedicated to provide the ground water districts' 2005 unsatisfied obligation to the Surface Water Coalition.

### **Conclusion**

In 2006, the ground water districts are required to provide 20 cfs of replacement water to the Devil's Washbowl to Buhl Reach and 16 cfs of steady state replacement water to the Buhl to Thousand Springs Reach. In 2005, the districts provided half these simulated steady state flows to the target reaches. In the 2006 Replacement Water Plan, the additional steady state reach gains required in year two (2006) of the incremental five-year implementation are almost solely derived from surface water delivered for recharge. Unfortunately, the information supporting the augmentation/recharge reach gains computed by the ground water districts' model simulations is incomplete and does not presently justify recognition of the reach gains purported to result from the recharge.

This letter is a request for additional information about the deficiencies listed above. Please submit the additional information on or before **June 19, 2006**. Failure to submit the information could result in rejection of the augmentation component of the plan and possible forced curtailment of water rights.

Respectfully,



Gary Spackman

cc. Blue Lakes and Clear Springs delivery call parties

**COMBINED CERTIFICATE OF SERVICE  
FOR BLUE LAKES TROUT FARM AND  
CLEAR SPRINGS FOODS, INC.**

I HEREBY CERTIFY that on this 9<sup>th</sup> day of June, 2006, the above and foregoing document was served in the following manner:

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